THE IBIS.

NINTH SERIES.

No. II. APRIL 1912.

X.—*On a Collection of Birds made by* Mr. Willoughby P. Lowe *on the West Coast of Africa and outlying Islands; with Field-Notes by the Collector.*

By David A. Bannerman, B.A., M.B.O.U.

(Plate IV. and Text-figs. 2 & 3.)

In the autumn of 1910 Captain C. E. Hardy, R.N., H.M.S. 'Mutine,' received orders to carry out a magnetic survey on the West and South-east coasts of Africa. Being much interested in Natural History he was most anxious that this trip should be utilized to enrich the collections at the Natural History Museum, and very kindly invited Mr. W. R. Ogilvie-Grant, or any ornithologist he might recommend, to join the ship at Capetown by the end of November (1910). Mr. Willoughby P. Lowe, an excellent naturalist and field-collector, was fortunately able to avail himself of this admirable opportunity, and while the guest of Captain Hardy, visited many interesting places, and formed a large and valuable zoological collection, chiefly of birds. Mr. Lowe worked with his characteristic energy, and, although, owing to rough weather and other causes, he was unable to spend as much time on land as he had hoped, yet he managed to secure examples of a large variety of species. Many of them have proved exceedingly interesting, and several valuable additions and novelties were secured for the National Collection.

Leaving Capetown at the end of November, Captain Hardy, after visiting Ichabo Island, gradually worked his

way up the West Coast of Africa to Sierra Leone, and returned thence to Capetown in April, 1911. He was anxious that Mr. Lowe should remain on the 'Mutine' and continue his work up the south-east coast as far as Zululand; but the possibilities of landing on those storm-beaten shores seemed so remote that this part of the original programme was abandoned, and Mr. Lowe returned to England with his collections. This decision was, no doubt, wise, for Captain Hardy subsequently informed us that he had met with very rough weather, and had been unable to land anywhere during his trip up the south-east coast.

The collection includes examples of three new species, *Sylviella lowei*, *Sylviella hardyi*, and *Cinnyris kruensis* (which have already been described in the 'Bulletin' of the British Ornithologists' Club), besides interesting coastal forms, such as *Anthus gouldi*, *Mirafra occidentalis*, and *Dicrurus assimilis atactus*.

The female of *Pyromelana aurea* is described for the first time, from an example which Mr. Lowe obtained at St. Paul de Loanda.

The majority of the specimens were procured in Liberia. Sixteen species have been added to the List of Birds of that country which was compiled by Mr. Charles Chubb, and published in the second volume of Sir Harry Johnston's work on Liberia (1906).

The following is a list of the species which have been added to the known avifauna of Liberia; all the specimens were obtained in the costal districts, and the exact localities are recorded in the following pages.

Dicrurus assimilis atactus.	*Chrysococcyx smaragdineus.*
Anthus gouldi.	*Caprimulgus accræ.*
Cinnyris kruensis.	*Strepsilas interpres.*
Anthothreptes tephrolæma.	*Squatarola helvetica.*
Camaroptera chrysocnemis.	*Sterna maxima.*
Hirundo griseopyga.	*Oceanites oceanicus.*
Psalidoprocne obscura.	*Turtur erythrops.*
Coccystes glandarius.	*Turnix lepurana.*

(*Butco auguralis* was identified by Mr. Lowe, but not procured).

Two interesting islands were visited by the 'Mutine,' namely Annobon and Ichabo. As no notes on the latter place have ever appeared, I append to the paper (see p. 263) an excellent account of this guano-island by Mr. Lowe, and a map prepared by Captain Hardy, shewing clearly the distribution of the various birds found breeding there. Ichabo Island is noteworthy from the fact that *Sula capensis* breeds there in countless numbers in company with Cormorants of several species, and Penguins. Mr. William Sclater tells me that it is most unusual to find the Cape Gannet breeding on an island resorted to by so many other species, and that, as a rule, it prefers a solitary islet inhabited by its own kind only.

In order to minimise space and at the same time give a complete report on Mr. Lowe's collection, I have divided the part dealing with the birds into two portions. In the first I have given a complete list of every species collected and the locality from which it was obtained. Generally well-known birds, which I have not deemed of sufficient interest or importance to require any special remark, are contained in this list, as the only interest attaching to them is the locality from which they were procured. The second part contains the birds of which special mention must be made, or to which useful field-notes are attached, with references to Dr. Reichenow's 'Die Vögel Afrikas,' or to other works bearing on the subject. To the names of these latter species an asterisk is attached in the list.

Throughout this paper I have quoted Dr. Reichenow's work 'Die Vögel Afrikas' as 'Reich.'

Field-notes supplied by Mr. Lowe are placed in square brackets and his initials appended.

The greatest appreciation must be felt of the generous offer of Captain Hardy to take a naturalist with him during his survey of the West Coast of Africa, and for the great kindness shown by himself and the officers of H.M.S. 'Mutine' to Mr. Lowe. Throughout the voyage every means was placed at Mr. Lowe's disposal to facilitate his collecting,

and the results, as will be seen from the following pages, have proved of great value.

In the accompanying map (text-fig. 2) will be seen all the places visited, while a short itinerary is given, which may possibly prove of service.

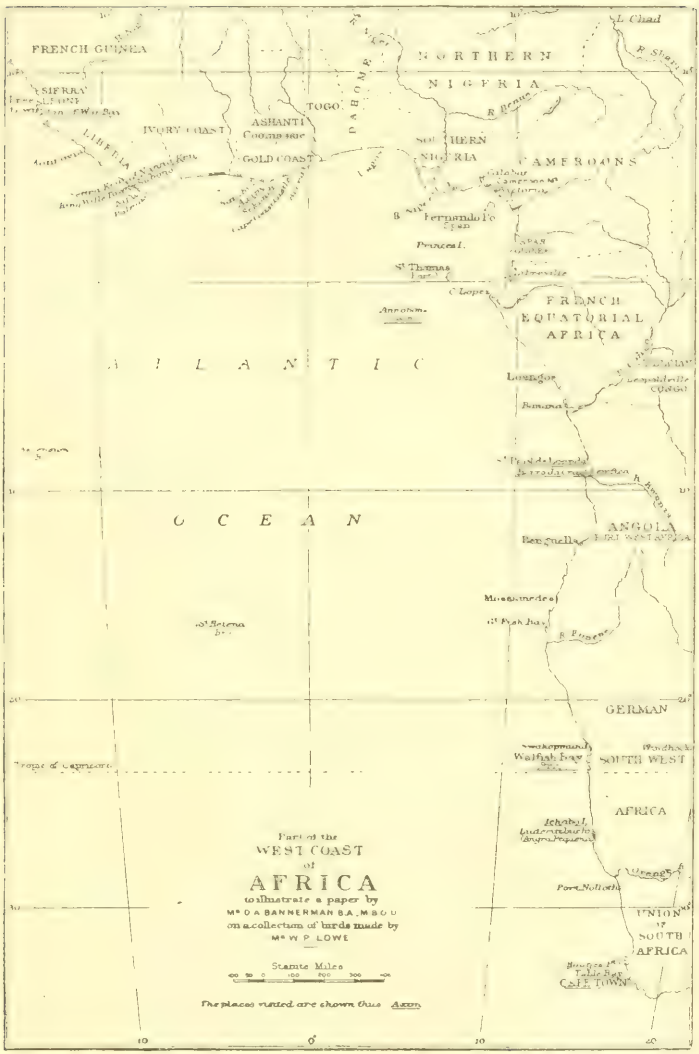
Itinerary of the Voyage.

Table Bay	24th to 30th Nov. 1910.
Hontjeo Point	25th Nov. 1910.
Ichabo Island	3rd to 5th Dec. 1910.
Walfish Bay	8th to 9th Dec. 1910, and 1st April, 1910.
St. Paul de Loanda	13th to 15th Dec. 1910, and 24th to 25th March, 1911.
Bemfica	15th Dec. 1910.
Morro da Cruz	15th Dec. 1910.
Annobon Island	18th Dec. 1910.
Sekondi (Gold Coast)	22nd to 27th Dec. 1910, and 1st March, 1911.
Nifu (Liberian Coast)	30th Dec. 1910.
Nanna Kru (Liberian Coast)	31st Dec. 1910 to 13th Jan. 1911, and 20th to 25th Jan. 1911.
Settra Kru (Liberian Coast)	14th to 19th Jan. 1911.
King Will's Town (Liberian Coast)	1st Jan. 1911.
Sierra Leone	28th Jan. to 6th Feb., and 7th to 12th March, 1911.
Man-of-War Bay (Sierra Leone)	2nd Feb. 1911.
Subono (Liberian Coast)	10th Feb. and 4th March, 1911.
Axim (Gold Coast)	12th to 28th Feb. 1911.

My sincere thanks are due to Mr. W. R. Ogilvie-Grant for giving me every facility in working out this collection, and for looking over my proofs, and also to his attendant, Mr. Wells.

I am further deeply indebted to Mr. Charles Chubb, of the British Museum, and to Mr. Claude Grant, for their valuable aid, but especially to Mr. W. L. Sclater, whose knowledge of African birds has been of the greatest assistance to me.

Text-fig. 2.



Sketch-map of part of the West Coast of Africa.

Part I.

List of the Species of which specimens were obtained by Mr. W. P. Lowe, with localities.

[The asterisk denotes that special reference is made to the particular species in Part II. of the paper.]

**Corvus scapulatus* Daud.	Subono; St. Paul de Loanda.
**Pholidauges leucogaster* (Gm.)	Nanna Kru; Settra Kru; Sierra Leone.
Lamprocolius cupreicaudus (Temm.)	Nanna Kru.
Onycognathus hartlaubi (Gray)	Nanna Kru.
**Dicrurus assimilis atactus* Oberh.	Nanna Kru; Sekondi.
**Oriolus larvatus brachyrhynchus* Swains.	Axim.
Malimbus malimbicus (Daud.)	Nanna Kru.
Malimbus nitens (Gray)	Axim; Sekondi.
Malimbus scutatus (Cass.)	Nanna Kru; Sekondi.
Malimbus rubricollis bartletti Sharpe	Nanna Kru; Sekondi.
Cinnamopteryx castaneofuscus (Less.)	Nanna Kru; Sierra Leone; Sekondi; Axim.
Hyphantornis cucullatus (Vieill.)	Nanna Kru; Nifu; King Wili's Town; Sierra Leone.
Hyphantornis aurantius (Müll.)	Nanna Kru; Subono.
Hyphantornis auricapillus (Cass.)	St. Paul de Loanda.
Sitagra brachyptera (Swains.)	Nanna Kru; Sierra Leone; Sekondi.
**Pyrenestes astrinus* (Vieill.)	Sierra Leone.
Quelea erythrops (Hartl.)	Subono.
Quelea quelea Linn.	St. Paul de Loanda.
**Pyromelana aurea* (Gm.)	St. Paul de Loanda.
Pyromelana afra (Gm.)	Nanna Kru.
Penthetria macrura (Gm.)	Nanna Kru; Nifu.
Spermestes bicolor (Fraser)	Nanna Kru; Settra Kru; Man-of-War Bay; Sekondi; Axim.
Spermestes cucullatus (Swains.)	Sierra Leone; Man-of-War Bay.
**Nigrita bicolor* (Hartl.)	Nanna Kru; Sekondi; Axim.
Nigrita emiliæ Sharpe	Sierra Leone; Sekondi; Axim.
Uræginthus bengalus angolensis (Linn.).	St. Paul de Loanda.
Spermæginthus melpoda (Vieill.)	Nanna Kru; Nifu; Axim.
Lagonosticta brunneiceps Sharpe	Sierra Leone.
Lagonosticta rufopicta (Fraser)	Sekondi; Axim.

Vidua principalis Linn.	Nanna Kru.
Passer griseus (Vieill.)	Axim; Sekondi; St. Paul de Loanda.
Fringillaria tahapisi (Smith)	St. Paul de Loanda.
**Mirafra occidentalis* Hartl.	St. Paul de Loanda.
**Pyrrhulauda verticalis* (Smith)	St. Paul de Loanda.
Motacilla flava Linn.	Nanna Kru; Nifu; Subono; Axim.
**Anthus gouldi* Fraser	Nanna Kru; Settra Kru; Subono; Man-of-War Bay.
Macronyx croceus (Vieill.)	Sierra Leone.
**Anthothreptes tephrolæma* (Jard., Fraser).	Settra Kru.
Anthothreptes collaris hypodilus (Jard.).	Nanna Kru; Sekondi; Sierra Leone.
**Cinnyris adelberti* Gerv.	Nanna Kru.
**Cinnyris verticalis* (Lath.)	Nanna Kru; Subono; Sierra Leone; Axim.
Cinnyris cupreus (Shaw)	Axim.
Cinnyris obscurus (Jard.)	Nanna Kru; Settra Kru; Sekondi; Axim.
**Cinnyris fuliginosus* (Shaw)	Nanna Kru; Subono.
Cinnyris splendidus (Shaw)	Sierra Leone; Axim.
Cinnyris chloropygius (Jard.)	Nanna Kru; Settra Kru; Sekondi; Sierra Leone.
Cinnyris johannæ Verr.	Nanna Kru.
Cinnyris mariquensis bifasciatus (Shaw)	Bemfica; Morro da Cruz; St. Paul de Loanda; Axim.
Cinnyris venustus (Shaw)	Nanna Kru; Nifu; Subono.
**Cinnyris kruensis* Bannerman	Nanna Kru; Axim; Sekondi.
Chalcomitra acik (Antin.)	KingWill's Town; Sierra Leone; St. Paul de Loanda.
**Pholidornis rushiæ ussheri* Reich.	Axim.
**Zosterops griseivirescens* Bocage	Annobon Island.
Zosterops senegalensis Bonap.	Sierra Leone.
Pomatorhynchus senegalus (Linn.)	Sierra Leone; Axim.
Harpolestes australis (Smith)	Bemfica; Mora da Cruz; St. Paul de Loanda.
Nicator chloris (Less.)	Nanna Kru; Axim.
Chaunonotus sabinei (Gray)	Axim.
Laniarius major (Hartl.)	Axim.
Dryoscopus gambensis (Licht.)	Settra Kru; Sierra Leone.
Lanius humeralis smithi (Fraser)	Subono; Nifu; Sekondi.
Cisticola lateralis (Fraser)	Nanna Kru; Subono; Nifu.

Cisticola rufopileata Reich.	St. Paul de Loanda.
Cisticola erythrops (Hartl.)	Axim.
Cisticola rufa (Fraser)	Nanna Kru; Man-of-War Bay.
Cisticola terrestris (Smith)	Bemfica; Morro da Cruz; St. Paul de Loanda.
Prinia mystacea Rüpp	Nifu.
**Sylvia hortensis* Linn.	Sierra Leone.
Phylloscopus rufus (Bechst.)	Sekondi.
Hypolais polyglotta (Vieill.)	Sekondi.
Sylviella flaviventris (Sharpe)	Axim; Sekondi.
**Sylviella hardyi* Bannerman	Sierra Leone.
Sylviella lowei Grant	St. Paul de Loanda.
**Camaroptera chrysocnemis* Licht.	Settra Kru.
Camaroptera concolor Hartl.	Sekondi.
Hylia prasina (Cass.)	Nanna Kru.
**Turdus pelios* (Bonap.)	Sierra Leone.
Cossypha verticalis Hartl.	Sierra Leone.
**Alethe diademata* (Temm.)	Nanna Kru.
Pratincola rubetra (Linn.)	Sierra Leone.
Saxicola œnanthe (Linn.)	Sierra Leone.
Saxicola familiaris galtoni (Strickl.)	St. Paul de Loanda.
Turdinus gularis (Sharpe)	Axim.
**Turdinus puveli* Salvad.	Sierra Leone.
Criniger verreauxi Sharpe	Nanna Kru; Axim.
Bleda simplex (Hartl.)	Settra Kru; Sierra Leone; Axim; Sekondi.
Bleda canicapilla (Hartl.)	Axim.
Bleda leucopleura (Cass.)	Nanna Kru; Settra Kru; Axim.
Andropadus indicator (Verr.)	Settra Kru.
Andropadus minor Boc.	Sierra Leone.
Andropadus virens (Cass.)	Nanna Kru; Settra Kru; Sierra Leone; Sekondi.
Andropadus gracilirostris Strickl.	Nanna Kru; Settra Kru; Subono; Axim; Sekondi.
Pycnonotus barbatus (Desf.)	Nifu; Sekondi.
**Alseonax comitata* (Cass.)	Axim.
**Muscicapa grisola* Linn.	Nanna Kru; Axim.
Batis senegalensis (Linn.)	Sekondi.
**Bias musicus* Vieill.	Nanna Kru; Settra Kru; Subono; Sierra Leone; Sekondi.
Platystira cyanea (Müll.)	Nanna Kru; Settra Kru; Sierra Leone; Axim.
**Elminia longicauda* (Swains.)	Sierra Leone.
Hirundo puella Temm.	Axim.

**Hirundo rustica* Linn.	Nanna Kru : Axim.
**Hirundo griseopyga* Sundev.	Nanna Kru.
**Hirundo leucosoma* Swains.	Axim.
**Psalidoprocne obscura* (Temm.)	Nanna Kru ; Sierra Leone ; Sekondi.
**Campothera maculosa* (Valenc.)	Sierra Leone.
Campothera nivosa (Swains.)	Axim.
Mesopicus pyrrhogaster (Malh.)	Nanna Kru : Sekondi.
**Mesopicus pavocephalus* (Swains.)	Sierra Leone.
Dendropicus lafresnayi Malh.	Sierra Leone.
Indicator exilis (Cass.)	Sierra Leone.
Lybius bidentatus (Shaw)	Sierra Leone.
Tricholæma leucomelas (Bodd.)	Bemfica ; Morro da Cruz.
Gymnobucco calvus (Lafr.)	Nanna Kru ; Settra Kru ; Axim.
Barbatula scolopacea (Temm.)	Nanna Kru ; Sierra Leone ; Sekondi ; Axim.
**Barbatula chrysopyga* Shelley	Nanna Kru ; Sekondi.
Barbatula duchaillui Cass.	Nanna Kru.
Trachyphonus goffini (Schl.)	Nanna Kru ; Axim.
**Turacus persa* (Linn.)	Sekondi ; Axim.
Turacus macrorhynchus (Fraser)	Nanna Kru.
Centropus senegalensis (Linn.)	Nanna Kru ; Subono ; King Will's Town ; Sierra Leone ; Axim.
Centropus superciliosus Hempr.	St. Paul de Loanda.
**Coccystes glandarius* (Linn.)	Nifu ; Axim.
**Ceuthmochares flavirostris* (Swains.)	Sierra Leone.
**Chrysococcyx smaragdineus* (Swains.)	Nanna Kru ; Axim.
**Chrysococcyx cupreus* (Bodd.)	Subono ; Axim.
**Chrysococcyx klaasi* (Steph.)	Nanna Kru ; Sekondi.
Colius castanotus Verr.	St. Paul de Loanda.
Colius indicus angolensis Reich.	St. Paul de Loanda.
Cypselus caffer Licht.	Axim.
**Tachornis parvus brachypterus* Reich.	Nanna Kru.
**Caprimulgus accræ* Shelley	Nanna Kru.
**Scotornis climacurus* (Vieill.)	Nanna Kru.
Bycanistes fistulator (Cass.)	Subono.
Lophoceros elegans (Hartl.)	Bemfica ; Morro da Cruz.
Lophoceros semifasciatus (Hartl.)	Nanna Kru ; Axim.
Merops superciliosus Linn.	Bemfica ; Morro da Cruz.
Merops albicollis Vieill.	Nanna Kru ; Settra Kru ; Sierra Leone ; Sekondi.
Melittophagus gularis (Shaw)	Nanna Kru ; Sekondi.

Melittophagus meridionalis Sharpe ..	St. Paul de Loanda.
**Coracias caudatus* Linn.	St. Paul de Loanda.
**Eurystomus afer* (Lath.)	Nanna Kru; Nifu; King Will's Town; Axim.
**Halcyon senegalensis* (Linn.)	Nanna Kru; Sekondi.
Halcyon chelicutensis (Stanl.)	St. Paul de Loanda.
Halcyon torquatus forbesi Sharpe ..	Sierra Leone.
Corythornis cyanostigma (Rüpp.) ..	Sierra Leone; Sekondi; Axim.
Alcedo quadribrachys Bonap.	Sierra Leone.
Ceryle rudis (Linn.)	Sierra Leone; Sekondi.
Ceryle maxima (Pall.)	Sierra Leone.
**Pœocephalus rueppelli* Gray	Bemfica; Morro da Cruz; St. Paul de Loanda.
**Cerchneis* sp. inc.	St. Paul de Loanda.
**Baza cuculoides* (Swains.).....	Nanna Kru.
**Milvus ægyptius* (Gm.).....	Nifu.
**Gypohierax angolensis* (Gm.)	Nanna Kru; Settra Kru; Axim.
**Buteo auguralis* (Salvadori).....	Sierra Leone.
**Polyboroides typicus* Smith	Sierra Leone.
**Neophron monachus* (Temm.)	Sekondi.
Pelecanus rufescens Gm.	Walfish Lagoon.
**Sula capensis* (Licht.)	Houtjes Point; Walfish Bay; Ichabo Island.
**Phalacrocorax lucidus* (Licht.).....	Walfish Bay; Ichabo Island; St. Paul de Loanda.
**Phalacrocorax capensis* (Sparrm.) ..	Table Bay; Houtjes Point; Ichabo Island.
Phalacrocorax africanus (Gm.)	Ichabo Island.
Phalacrocorax neglectus (Wahlb.) ..	Ichabo Island.
**Phœnicopterus minor* Geoffr.	Walfish Bay; Walfish Lagoon.
Butorides atricapilla (Afzel.)	Nanna Kru; Sierra Leone.
**Butorides sturmi* (Wagl.)	Nanna Kru.
Melanophoyx ardesiaca (Wagl.)	Settra Kru; Sierra Leone; Man-of-War Bay; Annobon Island.
Ardea purpurea Linn.	Sekondi.
Otis melanogaster Rüpp.	St. Paul de Loanda.
**Œdicnemus vermiculatus* Cab.....	Nanna Kru.
**Galactochrysea liberiæ* (Schl.).....	Nanna Kru.
Tringa subarquata (Güld.)	Table Bay; Walfish Bay.
Calidris arenaria (Linn.).....	Walfish Bay.
Glottis nebularius (Gunn.)	Sierra Leone.
Tringoides hypoleucus (Linn.)	Nifu; Subono; Sekondi; Sierra Leone.
Numenius phæopus (Linn.)	Nanna Kru.

**Recurvirostra avocetta* Linn.	Walfish Bay.
Ægialitis hiaticola Linn.	Nifu.
Ægialitis venusta (Fischer)	Walfish Bay.
Ægialitis pallida Strickl.	Walfish Bay.
Ægialitis marginata tenella Hartl.	Nanna Kru; Bemfica; Morro da Cruz.
**Squatarola helvetica* (Linn.)	Nanna Kru.
**Strepsilas interpres* (Linn.)	Nifu.
**Stercorarius crepidatus* (Banks)	Table Bay; Walfish Bay.
**Larus hartlaubi* (Bruch)	Houtjes Point; Table Bay.
Larus cirrocephalus Vieill.	Table Bay; Sierra Leone.
Larus fuscus Linn.	Sierra Leone.
**Larus dominicanus* Licht.	Table Bay; Walfish Bay.
**Sterna maxima* Bodd.	Subono; Man-of-War Bay; St. Paul de Loanda.
Sterna cantiaca Gm.	Table Bay; Houtjes Point; Walfish Bay; Sierra Leone.
Sterna caspia Pall.	St. Paul de Loanda.
**Sterna balænarum* (Strickl.)	Walfish Bay.
Thalassogeron chlororhynchus (Gm.)	Five miles west of Great Fish Bay.
**Majaqueus æquinoctialis* (Linn.)	Table Bay.
**Oceanites oceanicus* (Banks)	Nanna Kru.
**Oceanodroma leucorrhoa* (Vieill.)	6° 33′ N. 12° 4′ W.
**Procellaria pelagica* (Linn.)	About 30 miles north of the Equator.
**Spheniscus demersus* (Linn.)	Ichabo Island.
**Chalcopelia afra* (Linn.)	Nifu.
**Tympanistria tympanistria* (Temm.)	Nanna Kru; Sierra Leone; Sekondi.
**Turtur semitorquatus* (Rüpp.)	Nanna Kru; Settra Kru; Sekondi.
Turtur senegalensis (Linn.)	St. Paul de Loanda.
**Turturœna iriditorques* (Cass.)	Nanna Kru; Settra Kru.
**Vinago calva* (Temm.)	Settra Kru; Sekondi; Axim.
Numida meleagris Linn.	Annobon Island.
**Turnix lepurana* (Smith)	Nanna Kru; Bemfica; Morro da Cruz.
**Francolinus bicalcaratus* (Linn.)	Nanna Kru; Settra Kru; Man-of-War Bay.

Part II.

Notes on the more important Species.

Corvus scapulatus Daud.

Corvus scapulatus Reich. ii. p. 634.

a, *b*. ♂. St. Paul de Loanda. 14th Dec., 1910. (Nos. 86, 87.)

c. ♀. Subono. 10th Feb., 1911. (No. 462.)

Iris brown; bill and feet black.

Total length in the flesh 19 inches; expanse of wings 41 inches.

[This Crow is not abundant on the Kru coast. It feeds on insects and palm-fruit, and I found it the only bird which the natives refused to eat!—W. P. L.]

Pholidauges leucogaster (Gm.).

Cinnyricinclus leucogaster Reich. ii. p. 679.

a–f. ♂ ♀ ad. et ♂ imm. Nanna Kru. 1st–22nd Jan., 1911. (Nos. 220, 231, 235, 264, 311, 364.)

g, *h*. ♂ ♀. Settra Kru. 16th Jan., 1911. (Nos. 326, 366.)

i. ♂. Sierra Leone. 1st Feb., 1911. (No. 429.)

Iris yellow; bill black; feet black.

Total length 7 inches; expanse of wings 12 inches.

[This species is decidedly rare in Sierra Leone, but very common on the Liberian coast.—W. P. L.]

Dicrurus assimilis atactus (Oberholser).

Dicrurus afer Reich. ii. p. 646.

Dicrurus adsimilis atactus Oberholser, Proc. U.S. Nat. Mus. xviii. p. 920 (1905).

Dicrurus modestus Hartl. Rev. Mag. Zool. 1849, p. 495; Chubb, in Johnston's Liberia, vol. ii. p. 806.

a. ♂. Sekondi. 23rd Dec., 1910. (No. 125.)

b. ♀. Nanna Kru. 22nd Jan., 1911. (No. 334.)

Iris red; bill black; feet black.

Total length in the flesh 10 inches; expanse of wings 15 inches.

There has been a great deal of confusion over the African Dicruridæ. Dr. Reichenow has "lumped" all the West Coast forms under *D. afer* Licht., which specific name Oberholser shews cannot stand at all! (Proc. U.S. Nat. Mus. xviii. pp. 916–920). I have carefully gone into the various points raised by Mr. Oberholser, and can bear him out in all his assertions.

The two birds which Mr. Lowe obtained in Liberia and on the Gold Coast are examples of *Dicrurus assimilis atactus* Oberholser, which form is confined to the N.W. coast of Africa from Liberia to the Niger. *Dicrurus assimilis atactus* differs from the Southern form *D. assimilis* in having the wing-quills darker, and the gloss on the entire plumage with more of a bluish than a greenish sheen, as is the case in the southern bird, though this latter character is not always constant. In other respects Mr. Oberholser's remarks on the species are borne out by the examples which I have examined.

In Mr. Chubb's list of birds found in Liberia he mentions a single example of *Dicrurus modestus* Hartl., which ought probably to be referred to *D. atactus*.

The former species, of which there are six specimens in the Natural History Museum from the type locality, is, in my opinion, confined to Princes Island in the Gulf of Guinea: it was described by Hartlaub, Rev. Mag. Zool. 1849, p. 495. All the examples which I have examined are large birds, with a wing measurement varying in males from 5·4 to 5½ inches; the females are slightly smaller. Moreover, the steel-blue gloss on the feathers of the head, and the heavy bill, help to distinguish the species from the closely allied form found on the mainland.

D. modestus must therefore be eradicated from the Liberian list and *D. a. atactus* added in its stead.

Oriolus larvatus brachyrhynchus Swains.

Oriolus larvatus brachyrhynchus Reich. ii. p. 660.

a. ♂. Axim. 17th Feb., 1911. (No. 180.)

Iris red; bill reddish brown; feet blue.

Total length in the flesh 9¼ inches; expanse of wings 14 inches.

[This Oriole was not seen within three miles of Axim. It inhabits densely wooded places.—W. P. L.]

Pyromelana aurea (Gm.).

Pyromelana aurea Shelley, Ibis, 1886, p. 354, pl. ix. fig. 2.

Pyromelana aurea Reich. iii. p. 113.

a. ♀. St. Paul de Loanda. 24th March, 1911. (No. 632.)

As the female of this interesting species does not appear to have been described, I append a description of the adult bird which Mr. Lowe obtained at St. Paul de Loanda. There are three male examples in the British Museum, one of which was procured at the Quanza River, which is immediately south of St. Paul de Loanda.

Adult female. Resembles the adult female of *P. flammiceps*, but the black shaft-streaks of the upper surface are darker and more sharply defined. The ground-colour of the upper parts is more rufous throughout, very distinct on the crown of the head. In size the female appears to resemble the male, including the bill.

Iris brown; upper mandible horn-coloured, lower mandible white; feet flesh-coloured.

Total length in the flesh 5⅛ inches; expanse of wings 8 inches.

Pyrenestes ostrinus (Vieill.).

Pyrenestes ostrinus Reich. iii. p. 106.

a, *b*. ♀ imm. et ♀ juv. Sierra Leone. (Nos. 428, 443.)

Iris brown; bill black; feet dirty flesh-coloured.

Total length in the flesh 5½ inches; expanse of wings 8 inches.

The juvenile bird, which is in the olive-brown plumage, has two small wattles on either side of the gape.

Nigrita bicolor (Hartl.).

Nigrita bicolor Reich. iii. p. 167.

a. ♀. Nanna Kru. 20th Jan., 1911. (No. 335.)

b. ♂. Axim. 17th Feb., 1911. (No. 483.)

c. ♂. Sekondi. 1st March, 1911. (No. 532.)

Iris red; bill black; feet brown.

Total length in the flesh 5 inches; expanse of wings 7 inches.

[The female obtained at Nanna Kru was nesting at the time of my visit. The nest was placed in a small bush three feet from the ground, and contained three white eggs, slightly incubated, measuring 0·60 × 0·45 inch. The nest was entirely surrounded by red ants, which did not in the least appear to disturb the occupant.—W. P. L.]

Mirafra occidentalis Hartl.

Mirafra occidentalis Hartert, Nov. Zool. 1900, p. 45 (see remarks on *M. africana* and subspecies); id. Bull. B. O. C. xi. p. 64 (1901).

a, *b*. ♂. St. Paul de Loanda. 15th Dec., 1910, and 24th March, 1911. (Nos. 95, 646.)

Iris brown; upper mandible brownish, lower mandible white; feet flesh-coloured.

Total length in the flesh 7 inches; expanse of wings 11 inches; wing 3·5 inches.

Dr. Hartert kindly identified these two birds for me. *M. occidentalis* was described by Hartlaub from Gaboon, and in the Tring Museum there are specimens from Catumbela and Quissange in Benguela. The two examples which Mr. Lowe obtained at St. Paul de Loanda are the only representatives of the species in the Natural History Museum.

As will be seen from the measurements this is a very small race, and, as Dr. Hartert affirms, is probably confined to the coast.

[One of these birds was shot while singing in a tree; they were very common at St. Paul de Loanda.—W. P. L.]

Pyrrhulauda verticalis (Smith).

Pyrrhulauda verticalis Reich. iii. p. 368.

a, b. ♂ ♀ (?). St. Paul de Loanda. 24th March, 1911. (Nos. 630, 639.)

Iris brown; bill greyish horn-coloured; feet dirty flesh-coloured.

Total length in the flesh 5½ inches; expanse of wings 10 inches.

[This species was very common indeed; huge flocks were seen in Angola numbering over a thousand birds.—W. P. L.]

Anthus gouldi Fraser.

Anthus leucophrys sordidus Reich. iii. p. 318 (part).

a–d. ♂ ♀. Nanna Kru. 1st–21st Jan., 1911. (Nos. 234, 239, 329, 356.)

e. ♀. Settra Kru. 15th Jan., 1911. (No. 371.)

f. (?). Subono. 10th Feb., 1911. (No. 459.)

g. ♂. King Will's Town. 1st Jan., 1911. (No. 252.)

h. ♂. Man-of-War Bay. 2nd Feb., 1911. (No. 447.)

Iris brown; bill black, lower mandible yellow; feet flesh-coloured.

Total length in the flesh 7 inches; expanse of wings 11–12 inches.

This is a small, dark form found on the coast—the type was described by Fraser from Cape Palmas; the birds which Mr. Lowe procured from Liberia and Sierra Leone are all very constant in colour.

The specimen from Sierra Leone (*h*) has a longer bill than the other examples obtained, and the measurements are slightly larger throughout.

Anthus gouldi has been omitted from Mr. Chubb's List of Birds found in Liberia.

Anthothreptes tephrolæma (Jard. & Fras.).

Anthreptes tephrolæma Reich. iii. p. 445.

a. ♂. Settra Kru. 14th Jan., 1911. (No. 321.)

Iris brown; upper mandible black, lower mandible brownish; feet bluish.

This species may be at once recognised by its short "stumpy" bill.

Dr. Reichenow gives the range of the bird "from the Niger to Angola"—its place being taken further north by *A. rectirostris* (Shaw), which possesses a much longer and narrower bill than *A. tephrolæma*. The single specimen obtained on the Liberian coast by Mr. Lowe undoubtedly belongs to the latter species, and I cannot account for its occurrence so far north.

[The bird was feeding on berries.—W. P. L.]

Cinnyris fuliginosus (Shaw).

Chalcomitra fuliginosa Reich. iii. p. 457.

a–h. ♂ ♀. Nanna Kru. 3rd–20th Jan., 1911. (Nos. 219, 225, 251, 257, 270, 297, 300, 361.)

i, k. ♂. Subono. 10th Feb. and 4th March, 1911. (Nos. 458, 564.)

Iris brown; bill and feet black.

Total length in the flesh 6 inches; expanse 8½ inches.

[This is a common species in suitable localities in Liberia. —W. P. L.]

Cinnyris adelberti Gerv.

Chalcomitra adelberti Reich. iii. p. 456.

a–d. ♂ ad. et imm. Nanna Kru. 3rd–20th Jan., 1911. (Nos. 218, 228, 257, 354.)

Iris brown; bill and feet black.

Total length in the flesh 4½ inches; expanse of wings 7 inches.

[This species is not quite so plentiful as *C. fuliginosa* on the Kru coast.—W. P. L.]

Cinnyris verticalis (Lath.).

Chalcomitra verticalis Reich. iii. p. 454.

a, b. ♂. Nanna Kru. 3rd & 22nd Jan., 1911. (Nos. 217, 340.)

c. ♀ imm. Subono. 4th March–Feo., 1911. (No. 566.)

d–h. ♂ ♀ ad. et imm. 13th–27th Feb., 1911. (Nos. 464, 470, 511, 515, 520.)

Iris brown; bill and feet black.

Total length in the flesh 6 inches; expanse of wings 8 inches.

[One of the rarer species found along the Kru coast.—W. P. L.]

Cinnyris kruensis Bannerman.

Cinnyris kruensis Bannerman, Bull. B. O. C. xxix. p. 23 (1911).

a, b. ♀ et ♂ imm. Sekondi. 27th Dec., 1910. (Nos. 157 type and 166.)

c, d. ♂. Nanna Kru. 1st & 20th Jan., 1911. (Nos. 341 type and 272.)

e. ♀ imm. Axim. 27th Feb., 1911. (No. 519.)

This species is closely allied to *C. batesi* Grant, from Camaroon, but, as has already been pointed out in the original description, is distinguished by its smaller size, shorter bill, and more yellow under parts, besides having the feathers of the tail similar in colour to the back.

Expanse of wings 139 mm.; wing 45 mm.; tail 25 mm.; bill (exposed part of culmen) 13 mm.; tarsus 12 mm.

Pholidornis rushiæ ussheri Reich.

Pholidornis rushiæ ussheri Hartert, J. f. O. 1907, p. 621.

Pholidornis rushiæ Reich. iii. p. 529.

a, b. ♀ juv. Axim. 23rd Feb., 1911. (Nos. 503, 505.)

The difference between *P. rushiæ* Cass. and its three subspecies have been most clearly shown by Dr. Hartert in his paper cited above. The two immature birds which Mr. Lowe shot at Axim are very young examples and differ from the adult in the following points:—

The entire upper parts are much darker brown. The broad light buff margins to the feathers of the head and lores, which give to the adult bird such a mottled appearance, are replaced in the young by faint light brown edges to the feathers, which are almost uniform dark brown in colour. The flanks, abdomen, and rump are of a much

duller yellow than in the adult, and the grey feathers of the throat are faintly streaked with brown, not boldly striated with broad dark brown shaft-streaks as in the fully adult bird.

[These two examples were shot close to a stream, in the act of being fed by another bird.—W. P. L.]

Zosterops griseivirescens Boc.

Zosterops griseovirescens Reich. iii. p. 437.

a–f. ♂ ♀. Annobon Island. 18th Dec., 1910. (Nos. 110, 113, 114, 115, 116, 117.)

Iris brown; bill bluish horn-coloured; feet plumbeous.

Total length in the flesh 5 inches; expanse of wings $7\frac{3}{4}$ inches.

This White-eye is peculiar to the island of Annobon. Mr. Lowe tells me that it was exceedingly plentiful there. Specimen 110 was nesting at the time of his visit.

Sylvia hortensis Linn.

Sylvia simplex Reich. iii. p. 649.

a, b. ♂. Sierra Leone. 7th & 9th March, 1911. (Nos. 603, 573.)

Iris brown; upper mandible brown, lower mandible lighter; feet bluish.

Total length in the flesh 6 inches; expanse of wings $9\frac{1}{2}$ inches.

Sylviella hardyi Bannerman.

Sylviella flaviventris Sharpe, Cat. Birds, vol. vii. p. 157 (part).

Sylviella hardyi Bannerman, Bull. B. O. C. xxix. p. 23 (1911).

a. Adult. Sierra Leone. 8th March, 1911. (No. 587.)

In the British Museum there is an immature example of this species from Abrobonko, obtained by Mr. Ussher, which has been wrongly identified as *S. flaviventris* Sharpe.

A full description of this new bird has been given in the 'Bulletin of the British Ornithologists' Club' (*vide supra*).

Camaroptera chrysocnemis Licht.

Camaroptera griseoviridis Reich. iii. p. 616.

a. ♂. Settra Kru. 16th Jan., 1911. (No. 322.)

Iris reddish brown; eyelids brown; bill black; feet flesh-coloured.

Total length in the flesh 5 inches; expanse of wings $6\frac{1}{2}$ inches.

This species is not included in Mr. Chubb's List of Birds found in Liberia.

Turdus pelios Bonap.

Turdus pelios Reich. iii. p. 690.

a, *b*. ♂. Sierra Leone. 3rd Feb. and 11th March, 1911. (Nos. 437 & 613.)

Iris reddish brown; bill yellow; feet flesh-coloured.

Total length in the flesh 9 inches; expanse of wings $13\frac{1}{4}$ inches.

[This bird was found in dense bush, and my attention was generally called to it by its habit of turning over dead leaves whilst feeding. The stomach contained insects. It seems to be uncommon.—W. P. L.]

Alethe diademata (Temm.).

Alethe diademata Reich. iii. p. 748.

a. (?) imm. Nanna Kru. 25th Jan., 1911. (No. 392.)

Iris brown; upper mandible black; feet bluish.

[This was the only individual seen. It was shot in very dense bush: the stomach contained insects.—W. P. L.]

Turdinus puveli Salvad.

Turdinus puveli Reich. iii. p. 739.

a. ♀. Sierra Leone. 7th March, 1911. (No. 610.)

Iris light brown; bill, upper mandible black, lower mandible bluish white; feet pinkish flesh-coloured.

Total length in the flesh $7\frac{1}{4}$ inches; expanse of wings 9 inches.

This is a rare species of which there is only one example in the Natural History Museum. It was also procured in Sierra Leone, by Mr. Robin Kemp.

Dr. Reichenow gives its habitat as Portuguese Guinea and Kassine Island.

Alseonax comitata (Cass.).

Pedilorhynchus comitatus Reich. ii. p. 461.

a. ♂. Axim. 27th Feb., 1911. (No. 514.)

Iris brown; bill and feet black.

Total length in the flesh $5\frac{3}{4}$ inches; expanse of wings $8\frac{1}{2}$ inches.

This example is an adult in fresh plumage, and shews more white on the under parts than those in the series in the Natural History Museum, which have a distinct buff tinge on the throat and belly.

Muscicapa grisola Linn.

Muscicapa grisola Reich. ii. p. 449.

a. ♂ (?). Nanna Kru. 20th Jan., 1911. (No. 355.)

b. ♂. Axim. 13th Feb., 1911. (No. 466.)

Iris brown; bill black, base of lower mandible yellow; feet black.

Total length in the flesh 6 inches; expanse of wings 10 inches.

[These birds were rather rare, very few being seen on the Liberian coast.—W. P. L.]

Bias musicus (Vieill.).

Bias musicus Reich. ii. p. 469.

a. ♀. Sekondi. 25th Dec., 1910. (No. 154.)

b, *c*. ♂ imm. et ♀ ad. Sierra Leone. 31st Jan. and 8th March, 1911. (Nos. 418, 569.)

d. ♂. Settra Kru. 15th Jan., 1911. (No. 324.)

e. ♂. Nanna Kru. 20th Jan., 1911. (No. 320.)

f. ♂. Subono. 10th Feb., 1911. (No. 455.)

Iris yellow; bill black; feet yellow.

Total length in the flesh $6\frac{1}{2}$ inches; expanse of wings 10 inches.

[This striking bird is tolerably common on the Kru coast, but more plentiful at Sierra Leone.—W. P. L.]

Elminia longicauda (Swains.).

Elminia longicauda Reich. ii. p. 496.

a–c. ♂ ♀. Sierra Leone. 31st Jan.–10th March, 1911. (Nos. 445, 594, 611.)

Iris brown; bill black; feet brown.

Total length in the flesh 7 inches; expanse of wings $8\frac{1}{2}$ inches.

[This Flycatcher, unlike most of its genus, does not wait patiently on its perch until an insect flies within range, but hunts diligently along a bough, driving the insects before it until they take to flight, when they are immediately seized and devoured.—W. P. L.]

Hirundo rustica Linn.

Hirundo rustica Reich. ii. p. 406.

a, *b*. ♀. Nanna Kru. 3rd & 21st Jan., 1911. (Nos. 223, 336.)

c. ♂. Axim. 23rd Feb., 1911. (No. 493.)

Iris brown; bill black; feet dark brown.

Total length in the flesh 8 inches; expanse of wings $12\frac{1}{2}$ inches.

[Swallows were common—doubtless on migration.—W. P. L.]

Hirundo griseopyga Sundev.

Hirundo griseopyga Reich. ii. p. 403.

a, *b*. ♂ ♀. Nanna Kru. 5th & 8th Jan., 1911. (Nos. 265, 298.)

Iris brown; bill black; feet brownish.

Total length in the flesh $6\frac{1}{4}$ inches; expanse of wings 9 inches.

H. griseopyga has not hitherto been recorded from Liberia.

[This species is not uncommon in Liberia.—W. P. L.]

Hirundo leucosoma Swains.

Hirundo eucosoma Reich. ii. p. 404.

a. ♀. Axim. 22nd Feb., 1911. (No. 502.)

This is the only example of its species which Mr. Lowe procured, and hence I am somewhat unwillingly compelled

to unite it with *H. leucosoma* Swains. In the Natural History Museum there are six specimens from the Gold Coast, all of which have the gloss on the feathers of a bluish tinge, whereas the gloss on the present example is decidedly green. Nothing is so deceptive as the sheen on the feathers in birds with a glossy plumage, and it has been often pointed out that the colour may change from various causes; but *H. leucosoma* has the throat *white*, whereas in the bird with the green gloss it is strongly washed with rufous which reaches on to the breast. Hence, when a large series is procured it may prove to be separable, and both the rufous on the throat and the green sheen on the upper parts to be constant characters.

Psalidoprocne obscura (Temm.).

Psalidoprocne obscura Reich. ii. p. 427.

a–c. ♂ ♀. Sekondi. 22nd & 23rd Dec., 1911. (Nos. 136, 146, 147.)

d. ♂. Nanna Kru. 10th Jan., 1911. (No. 291.)

e. ♂. Sierra Leone. 31st Jan., 1911. (No. 444).

Iris dark brown; bill and feet black.

Total length in the flesh 4¾ inches; expanse of wings 10 inches.

Hitherto unrecorded from Liberia.

Campothera maculosa (Valenc.).

Dendromus maculosus Reich. ii. p. 170.

a. ♂. Sierra Leone. 10th March, 1911. (No. 604.)

Iris brown; upper mandible black, lower mandible bluish; feet greenish.

Total length in the flesh 8¼ inches; expanse 13 inches.

[I found Woodpeckers scarce on the Liberian coast, and observed only two species. This form seemed quite local and was found in a small forest clearing, where a number of dead trees were standing, about three or four miles from the coast.—W. P. L.]

Mesopicus pœocephalus (Swains.).

Mesopicus goertæ poicephalus Reich. ii. p. 186.

a. ♀ imm. Sierra Leone. 10th March, 1911. (No. 589.)

Iris brown; upper mandible black, lower mandible bluish horn-coloured; feet grey.

Total length in the flesh 8¼ inches; expanse of wings 14 inches.

I have been unable to determine this bird to my entire satisfaction, although from the locality it should certainly be *M. pœocephalus*. The specimen, which Mr. Lowe shot in Sierra Leone, is in fresh plumage but is immature. The upper parts are olive-brown, not golden olive as in the adult; the head, which is grey, has a few pink feathers interspersed over the crown and occiput, while the feathers of the rump are salmon-pink in contrast to the bright scarlet rump in the examples of *M. pœocephalus* which I have examined. The entire under parts are greenish grey, narrowly barred with light brown on the flanks. The only immature example in the National Collection shews considerably more golden olive on the back than is present in the Sierra Leone bird.

Mr. Lowe ascertained the sex of this example to be a female, although assuming the scarlet head of the male.

Barbatula chrysopyga Shelley.

Barbatula chrysopyga Reich. ii. p. 148.

a. ♀ (?). Sekondi. 23rd Dec., 1910. (No. 158.)

b. ♂. Nanna Kru. 7th Jan., 1911. (No. 281.)

Iris brown; bill and feet black.

Total length in the flesh 3¾ inches; expanse of wings 6 inches.

This Barbet has been omitted by Mr. Chubb from the List of Liberian Birds.

Turacus persa (Linn.).

Turacus persa Reich. ii. p. 54.

a, b. ♂. Sekondi. 23rd Dec., 1910. (Nos. 179, 180.)

c. ♂. Axim. 17th Feb., 1911. (No. 482.)

Iris brown, eyelids red; bill red; feet black.

Total length in the flesh 17½ inches; expanse of wings 19 inches.

[This Turaco is known to the natives as the "Clock

bird," from its remarkable habit of calling every hour. I have "timed" the bird several times and found it marvellously correct, though of course not to be relied upon; the natives, however, go largely by it.—W. P. L.]

Coccystes glandarius (Linn.).

Coccystes glandarius Reich. ii. p. 81.

a. ♀ imm. Nifu. 3rd Dec., 1910. (No. 196.)

b, c. ♂. Axim. 15th Feb., 1911. (Nos. 475, 476.)

Iris brown, eyelids reddish; bill and under part of lower mandible flesh-coloured near base; feet bluish.

Total length in the flesh (adult) 16 inches, (imm.) 15½ inches; expanse (adult) 23 inches, (imm.) 22 inches.

No immature example of this Cuckoo is mentioned in the List of the Birds of Liberia by Mr. Chubb.

Ceuthmochares flavirostris (Swains.).

Ceuthmochares flavirostris Reich. ii. p. 72.

a. ♂. Sierra Leone.

[The example was obtained in very thick creepers, and was the only one seen. It was extremely shy.—W. P. L.]

Chrysococcyx cupreus (Bodd.).

Chrysococcyx cupreus Reich. ii. p. 94.

a. ♀. Subono. 10th Feb., 1911. (No. 461.)

b. ♂. Axim. 25th Feb., 1911. (No. 551.)

Iris and eyelid red; upper mandible black, lower mandible bluish at the base; feet bluish-black.

[This Cuckoo is common; it inhabits swampy places, and is occasionally seen in the cassava.—W. P. L.]

Chrysococcyx klaasi (Steph.).

Chrysococcyx klaasi Reich. ii. p. 98.

a, b. ♀ ad. et ♂ imm. Nanna Kru. 13th & 20th Jan., 1911. (Nos. 303, 332.)

c, d. ♂. Sekondi. 1st March, 1911. (Nos. 533, 534.)

Iris brown, eyelids green; bill dull green, tip black; feet greenish.

Total length in the flesh 7 inches; expanse of wings 10 inches.

[*C. klaasi* was plentiful and found in similar localities to *C. cupreus*. A small black Cuckoo and also a large and very noisy bird with a yellow patch in the wings, closely allied to *C. serratus*, occur at Nanna Kru, but though shot they were not picked up.—W. P. L.]

Chrysococcyx smaragdineus (Swains.).

Chalcites smaragdineus Swains. Birds of Africa, p. 191 (1837).

Metallococcyx smaragdineus Reich. ii. p. 101.

a. ♂. Nanna Kru. 7th Jan., 1911. (No. 285.)

b. [♂.] Axim. 25th Feb., 1911. (No. 540.)

Iris brown; bill green; feet blue.

Total length in the flesh 9½ inches; expanse of wings 13 inches.

It has hitherto been supposed by many ornithologists that there was only a single species of the Emerald Cuckoo, which has been universally named *C. smaragdineus*. There is, however, no doubt that there are two forms of this beautiful Cuckoo: *C. smaragdineus*, from West Africa, which was described by Swainson from Gambia, and *C. smaragdineus intermedius* Hartlaub, Orn. W. Afric. p. 191 (1857) (founded on Verreaux's description of *C. smaragdineus* part. Rev. Mag. Zool. 1851, p. 260).

It appears that Verreaux was the first to notice the fact, as he remarks, "La seule différence qui existe entre cet oiseau du Gabon et celui du Sénégal consiste dans la longueur de la queue, qui est plus courte dans le premier." His remarks were quoted by Hartlaub, and on this was founded the name *intermedius*.

By referring to Swainson's original description of *C. smaragdineus*, it will be seen that he mentions "the under tail-coverts in *this* are yellow and unspotted, while in *that* (the Cape form) they are white with two green bands on each feather."

The series which I have examined in the British Museum from the West Coast, South Africa, and Abyssinia, clearly shew several important differences. As a great number of examples in the Museum series are not absolutely adult

(having traces of the barring on the chest, although they may have already lost all traces of the bars on the under wing-coverts—so conspicuous a feature in young birds), I have eliminated these in working out the characters; only skins of adult birds of which the origin is unquestioned being taken into account. The most noticeable point is that the tail in *C. smaragdineus* is considerably longer and the rectrices more graduated than in *C. smaragdineus intermedius*.

From the following Table it will be seen that the tail in adult South African birds is much shorter than in those from the North-West and North-East of Africa.

The measurement of the tail is taken from between the base of the middle tail-feathers to the tip. In each case I have added the authority for the locality in brackets.

C. smaragdineus.	Tail. mm.	*C. s. intermedius.*	Tail. mm.
Gold Coast (Kirby)	133	Zoutpansberg District (C. Grant)	91
Liberia (Lowe)	117	Do. do. (C. Grant)	92
Axim (Lowe)	110	Zululand (C. Grant)	95
Sierra Leone (Chamley)	104	Danger River (Ansell)	92
Charada, Kaffa Abyssinia (Zaphiro)	122		
Do. do. do. (Zaphiro)	136		
Djima, Abyssinia (Zaphiro)	135		
Charada Forest, Abyssinia (Zaphiro)	120		
Do. do. do. (Zaphiro)	115		

Another important difference, already noticed by Swainson, is the fact that in *C. smaragdineus* the under tail-coverts become bright yellow, occasionally banded with emerald green; in the case of Mr. Lowe's two specimens the under tail-feathers have only one or two diminutive streaks of emerald green.

Examples of *C. s. intermedius never* attain yellow under tail-coverts, which are *white* banded with emerald green.

Skins of the Emerald Cuckoo are so liable to fade that in the series in the National Collection it is extremely hard to

see whether certain examples originally had the under tail-coverts yellow or white. In every recently-killed specimen from the N.W. Coast these feathers are bright yellow, as in the breast, whereas birds collected at about the same time in S. Africa shew no trace of yellow at all on the under tail-coverts. This character will doubtless prove to be constant; the emerald green bands on the under tail-feathers appear to vary individually.

A third character which will be noticed on examination of a series of both forms, is that the scale-like feathers on the upper parts of *C. smaragdineus* are noticeably larger than in *C. s. intermedius*.

It will be noticed that Mr. Lowe obtained his two examples in Liberia and the Gold Coast at a season when *C. intermedius* has returned from the north in order to spend the southern summer (October to March) in South Africa: *cf.* Stark & Sclater, Faun. S. Africa, vol. iii. p. 186.

C. smaragdineus intermedius will probably be found to migrate on the East Coast as far north as Uganda, although many more data are necessary before its exact range can be determined.

The credit for noticing the difference between the Northern and Southern form is entirely due to Mr. Lowe, who remarked the yellow under tail-coverts as soon as he had shot the first example, and brought the interesting fact to my notice.

C. smaragdineus is not included in Mr. Chubb's List of the Birds found in Liberia, and must now be added on Mr. Lowe's authority.

[This handsome Cuckoo appears to be rare in Liberia and the Gold Coast. It is seldom seen, and I found it to be very retiring. The male sings from the top of a lofty tree, as in South Africa.—W. P. L.]

Note.—Dr. Reichenow has introduced a new generic name, *Metallococcyx*, for this species (Orn. Monatsb. 1896, p. 54). However, careful investigation shews that *C. smaragdineus* is absolutely the type of Boie's genus *Chrysococcyx*. Boie (Isis, 1826, p. 977) proposed *Chrysococcyx* for *Cuculus cupreus* Lath. By monotypy, therefore, this must be accepted

H. Gronvold ae

absolutely as the type. In the Cat. Birds Brit. Mus. xix. p. 280, the type of *Chrysococcyx* is given as *C. cupreus*; but in this case *C. cupreus* of Boddaert is intended. But Latham's *C. cupreus* (Suppl. Index Ornithol. ii. p. xxix, 1802) is the same as Shaw's *C. cupreus* (Mus. Lever. p. 157, 1792), which is the bird named *C. smaragdineus* by Swainson (Birds W. Africa, ii. p. 191, 1837), and not Boddaert's species.

C. cupreus of Boddaert belongs to the Golden Cuckoo.

C. cupreus of Latham, and subsequently of Shaw, undoubtedly refers to the Emerald Cuckoo which was named *C. smaragdineus* by Swainson.

Tachornis parvus brachypterus Reich.

Tachornis parvus brachypterus Reich. ii. p. 386.

a. ♂. Nanna Kru. 6th Jan., 1911. (No. 295.)

Iris brown; bill black; feet dirty flesh-coloured.

Total length in the flesh 6$\frac{3}{4}$ inches; expanse of wing 11$\frac{3}{4}$ inches.

[This bird was decidedly rare, about half a dozen were seen, on the Kru coast. At Sierra Leone, on the other hand, it was very common and was discovered nesting.—W. P. L.]

Caprimulgus accræ Shelley. (Plate IV. fig. 1.)

Caprimulgus accræ Shelley, Ibis, 1875, p. 379; Alexander, Bull. B. O. C. xxi. p. 90 (1908).

Caprimulgus fulviventris Hartert, Cat. Birds Brit. Mus. xvi. p. 565 (1892) (part.).

Caprimulgus natalensis Hartert, Das Tierreich (Caprimulgidæ), 1897, p. 45; Hartert, Cat. Birds Brit. Mus. xvi. p. 564 (1892) (part.).

Caprimulgus natalensis fulviventris Hartert, Das Tierreich (Caprimulgidæ), 1897, p. 45, part.; Reich. ii. p. 367, part.

a, *b*. ♂. Nanna Kru. 4th & 12th Jan., 1911. (Nos. 240, 312.)

Iris brown; bill black, becoming yellowish brown at the base; feet flesh-coloured.

Total length in the flesh 9$\frac{1}{4}$ inches; expanse of wings 18–20 inches.

Considerable confusion has taken place in the past between *C. natalensis* (Smith), *C. fulviventris* Hart., and *C. accræ*

Shelley. The addition to the National Collection of Mr. Lowe's two examples from Liberia, which agree exactly with the type of *C. accræ* Shelley, throws considerable light on the subject, and bears out the late Mr. Boyd Alexander's theory that *C. accræ* and *C. fulviventris* are perfectly distinct species, and that both may be separated from *C. natalensis*. In this opinion Dr. Hartert now entirely agrees with me, and I should here like to express my thanks to him for his kindness in placing the material in the Tring Museum at my disposal.

C. accræ differs from *C. fulviventris* in the following points, which are mostly alluded to in the original descriptions of the species.

C. accræ. (Plate IV. fig. 1.)	*C. fulviventris.* (Plate IV. fig. 2.)
Entire upper parts ashy grey (much greyer than *C. natalensis*).	Entire upper parts tawny brown.
The sides of the face, throat, and breast heavily marked with dark brown (more pronounced in the two birds from Liberia than in those from the Gold Coast).	Much less heavily marked on the under parts.
The abdomen and sides of the the flanks, which are tawny buff, are heavily barred with brown.	The bars on the abdomen and and flanks are entirely absent.
An ill-defined narrow white malar stripe.	Malar stripe broad and pronounced.
*As in *C. natalensis* four primaries have a broad white patch.	*White wing patch covers five primaries, though less defined on the fifth.
The extremities of the primaries are obscurely marked with light greyish-brown.	No such markings on the primaries.
The white on the two outer tail-feathers extends 55 mm. from the tip.	Less white on the two outer tail-feathers, extending 43 mm. from the tip.

* This is a somewhat variable character, and until a large series of *C. fulviventris* is available cannot be considered of much importance, although the large series of *C. natalensis* which I have examined is constant in this respect.

C. accræ may at once be distinguished from *C. natalensis* by its much greyer coloration.

Mr. Boyd Alexander has described a new species from Gaboon, *C. gabonensis*, which in my opinion is closely allied to *C. fulviventris*. When additional specimens are forthcoming from the country lying between Gaboon and north Angola the two species will possibly prove to be synonymous; until then, however, I prefer to keep them distinct.

I do not agree with Alexander that *C. natalensis* ranges from Natal to the Baro river, Sudan. At present only a single example is recorded from the latter locality; but I believe that when more material is available the bird will prove to be distinct.

Mr. Chubb does not include any Nightjar in his list. *C. accræ* must therefore be added to the Birds of Liberia.

[I found this bird among grassy slopes sitting on dark stony ground.—W. P. L.]

Scotornis climacurus (Vieill.).

Scotornis climacurus Reich. ii. p. 368.

a, c. ♂ ♀. Nanna Kru. 1st–9th Jan., 1911. (Nos. 241, 301, 308.)

Iris brown, eyelid yellow; bill, base yellow, tip black; feet dull flesh-coloured.

Total length in the flesh (♂) 13½ inches; expanse of wings 17 inches.

[This is apparently the most common of the two species of the genus; it is found in cassava and along the edge of wooded swamps.—W. P. L.]

Eurystomus afer (Lath.).

a. ♀. Nifu. 30th Dec., 1910. (No. 205.)

b–e. ♂ ♀. Nanna Kru. 1st–25th Jan., 1911. (Nos. 261, 342, 343, no number.)

f. ♀. King Will's Town. 1st Jan., 1911. (No. 260.)

g. ♂. Axim. 19th Feb., 1911. (No. 500.)

Iris brown; bill yellow; feet dirty yellow.

Total length in the flesh 9¼–10½ inches; expanse of wings 23 inches.

[This is the commonest bird on the Coast. Its habits are similar to those of a Flycatcher—constantly darting out after an insect and returning to its original perch to repeat the process.—W. P. L.]

Coracias caudatus Linn.

Coracias caudata Reich. ii. p. 223.

a. ♂ ? imm. St. Paul de Loanda. 24th March, 1911. (No. 635.)

Iris brown ; bill black ; feet dull yellow.

Total length in the flesh 12½ inches ; expanse of wings 22 inches.

Angola appears to be the northern limit of the range of this species on the West Coast of Africa, whereas on the East Coast it extends as far north as Shoa.

Halcyon senegalensis (Linn.).

Halcyon senegalensis Reich. ii. p. 282.

a. ♀. Sekondi. 23rd Dec., 1910. (No. 161.)

b, *c*. ♂. Nanna Kru. 1st Jan., 1911. (Nos. 229, 249.)

Iris brown ; upper mandible red, lower mandible black ; feet reddish black.

Total length in the flesh 9½ inches ; expanse of wings 14 inches.

[A very common species. It lives chiefly on insects, and inhabits dry places away from water.—W. P. L.]

Pœocephalus rueppelli Gray.

Pœocephalus rüppelli Reich. ii. p. 14.

a. ♀. Bemfica, Morro da Cruz. 15th Dec., 1910. (No. 109.)

b. ♂. St. Paul de Loanda. 24th March, 1911. (No. 638.)

Iris bright reddish yellow ; bill and feet black.

Total length in the flesh 9 inches ; expanse of wings 17 inches.

[Rüppell's Parrot is found in very dry country, frequenting dried-up water courses. The female is easily distinguished by its bright blue rump from the more soberly coloured

male, dull blackish green taking the place of the blue on the rump.—W. P. L.]

Milvus ægyptius (Gm.).

Milvus ægyptius Reich. i. p. 609.

a. ♂. Nifu. 30th Dec., 1910. (No. 206.)

Iris brown; feet yellow; bill yellowish black, cere yellow.

[This species appeared to be quite common along the coast; it was frequently seen around the ship picking up waste food and occasionally bodies of the birds which I had skinned. The natives esteem it a great delicacy and I often shot it for my carriers: it has a curious habit of coming immediately a grass fire is started, probably to pick up any small creatures such as locusts that may have been killed; at such times specimens are easily shot. I saw several nests placed high up in inaccessible trees.—W. P. L.]

Buteo auguralis Salvad.

Buteo auguralis Reich. i. p. 593.

a. ♂. Sierra Leone. 9th March, 1911. (No. 622.)

Iris brown; bill black, base bluish; cere yellow; feet yellow.

Total length in the flesh 18½ inches; expanse of wings 45 inches.

This example of the West Coast form of *B. augur* is immature. The small size in comparison with *B. augur* is at once noticeable, the wing measuring 13·7 inches, while that of an immature male of *B. augur* measures 15·4 inches.

[In addition to one procured at Sierra Leone I saw a pair of these Buzzards at Nanna Kru; but they were more plentiful near Axim.—W. P. L.]

The occurrence of this species in Liberia has not hitherto been recorded.

Cerchneis sp. inc.

a. ♀ imm. St. Paul de Loanda. 15th Dec., 1910. (No. 108.)

Iris black, cere greenish yellow; bill bluish horn-coloured; feet yellow. The stomach contained locusts.

This example in immature plumage is a dark bird, very similar to *C. saturata* Blyth, from N.E. Africa.

Baza cuculoides (Swains.).

Baza cuculoides Reich. i. p. 618.

a. ♂ imm. Nanna Kru. 22nd Jan., 1911. (No. 387.)

Iris yellow: bill black, base of lower mandible bluish; cere greenish yellow; feet yellow.

Total length in the flesh 15 inches; expanse of wings 34 inches.

[This bird is tolerably common but extremely shy.—W. P. L.]

Polyboroides typicus Smith.

Polyboroides typicus Reich. i. p. 531.

a. ♀ imm. Sierra Leone. 11th March, 1911. (No. 617.)

Iris light brown; bill black; feet pale yellow.

Total length in the flesh 23 inches; expanse of wings 48 inches.

This specimen, which is in moult, is in a most interesting immature stage, just beginning to assume the adult plumage; a few of the grey feathers on the scapulars are making their appearance, while the black and white feathers of the rump have already appeared. The tail, which is light brown banded with dark brown, is similar to that of the very young bird, with the exception of the two central tail-feathers which are 5¾ inches in length (2 inches of which is sheath), the new feathers being black tipped with white, as in the adult plumage.

[The stomach of this specimen contained large white grubs. Two birds were seen on the Gold Coast but not procured.—W. P. L.]

Gypohierax angolensis (Gm.).

Gypohierax angolensis Reich. i. p. 603.

a. ♀ (?) imm. Nanna Kru. 10th Jan., 1911. (No. 304.)

b, *c*. ♀ ad. et ♂ imm. Settra Kru. 16th Jan., 1911. (Nos. 384, 385.)

d. ♂. Axim. 17th Feb., 1911. (No. 484.)

Iris (ad.) yellow, (imm.) light brown, bare skin orange; bill greenish horn-coloured; feet pinkish yellow.

Ad. ♀. Total length 25¼ inches; expanse 58½ inches;

weight 4 lbs. *Ad.* ♂. Total length 23 inches; expanse 56 inches.

The weight of an immature male was 3 lbs.

Two of these specimens, a male and female, are in the white plumage of the adult; the other two, also male and female, are immature, and are of a dirty brown colour throughout.

[This Vulture was quite common on the Liberian and Gold Coasts: a pair were nesting in a dead tree, the nest was bulky and formed of sticks; but unfortunately the trunk of the tree was covered with large spikes, which made it inaccessible even to a native.—W. P. L.]

Neophron monachus (Temm.).

Neophron monachus Reich. i. p. 522.

a. ♀ imm. Sekondi. 22nd Dec., 1910. (No. 181.)

Iris brown; bill and bare part of head bluish; feet bluish.

Total length in the flesh 26 inches; expanse of wings 5 ft.; weight 4 lbs.

This specimen, which is in immature plumage, differs from the adult in having the feathered part of the nape, neck, and lower part of the throat brown instead of dirty white, the brown feathers extending over the crown almost to the base of the bill. The ruff in this example is almost white, as in the adult; very young birds, according to the Catalogue of Birds, vol. i., have the ruff brown. I conclude, therefore, that this species assumes the white ruff before the neck and thighs become white.

[Found throughout the Gold Coast and Sierra Leone but *not* in Liberia. One was nesting in a cotton-wood tree in Sierra Leone, the nest being placed about thirty feet from the ground.—W. P. L.]

Phœnicopterus minor Geoffr.

Phœnicopterus minor Reich. i. p. 352.

a–c. ♂ ad. et imm. Walfish Bay. 8th Dec., 1910–1st April, 1911. (Nos. 75, 654, 662.)

Iris reddish yellow; bill reddish; feet red.

Total length in the flesh 31 inches; expanse of wings 52 inches; weight 4 lbs.

[As we left the harbour of Angra Pequena on the morning of December 3rd several small flocks of *P. minor* were walking or wading along the beach, whilst others were standing at the foot of some rocks. This species may be safely said to be the Common Flamingo of the South-West Coast of Africa. Mr. W. L. Sclater, in his 'Fauna of South Africa,' on the authority of Andersson states that it is "rare at Walfish Bay." As a matter of fact I found *P. minor* on the lagoons by thousands, but I was never fortunate enough to see a single specimen of *P. roseus*. Mr. Hutchinson, the magistrate at Walfish, who has resided there for some years, informed me that he had never shot an example of *P. roseus*, whilst he had a large series of *P. minor*. On the Liberian coast no Flamingos were seen, but *P. roseus* occurs at Sierra Leone. Only a few individuals were observed, but I was told that they were formerly very abundant.—W. P. L.]

Sula capensis (Licht.).

Sula capensis Reich. i. p. 84.

a, b. ♀. Off Hogie Point (? Houtjes Pt.), S. Africa. 25th Nov., 1910. (Nos. 18, 21.)

c. ♂ imm. Walfish Bay. 1st April, 1911. (No. 660.)

Adult. Iris white, eyelids blue; feet black, stripes greenish blue; weight 7 lbs.

Imm. Iris yellowish grey; bill greyish horn-coloured; eyelids bluish; feet grey, stripes bluish.

Total length in the flesh 34 inches; expanse of wings 63 inches.

[The Cape Gannet was very abundant; in feeding habits it is similar to our own bird. It struck me as curious that on our voyage northwards—we left Table Bay on November 30th—no immature birds were to be seen; of course, they do not nest until they have reached their black and white plumage, and it would be interesting to know where they go in the meantime. Both young and old birds were plentiful on our return journey.—W. P. L.]

Phalacrocorax lucidus (Licht.).

Phalacrocorax lucidus Reich. i. p. 89.

a–d. ♂ ♀. Ichabo Island. 3rd Dec., 1910. (Nos. 55, 57, 58, 61.)

e–h. ♂ ♀ ad. et imm. St. Paul de Loanda. 24th & 25th March, 1911. (Nos. 650, 651, 652, 661.)

i–k. ♂ imm. Walfish Bay. 1st April, 1911. (Nos. 655 & 657.)

Iris green: bill horn-coloured, whitish on lower mandible; feet black. Bare skin in front and round the eyes greenish blue, below the eye yellow; gape red: pouch greenish yellow; throat dirty yellow.

Total length in the flesh 33¾ inches; expanse of wings 52 inches.

Mr. Lowe has collected an excellent series of this Cormorant in different stages of plumage, including several fine adult specimens.

[This species was the rarest of the Cormorants. I saw about fifty of these birds perched on the iron beacon at Walfish Bay; but they were very shy, and it was not possible to get within a hundred and fifty yards of them. They were generally to be seen singly or in pairs, and only two nests were to be found on Ichabo Island. They nest, however, plentifully on a small islet in Hottentot Bay. They were most noticeable at St. Paul de Loanda, where one or two were seen perched on each buoy.

The weight of a full-grown bird is 6 lbs.—W. P. L.]

Phalacrocorax capensis (Sparrm.).

Phalacrocorax capensis Reich. i. p. 92.

a, b. ♂ ad. et imm. Hogie Point (? Houtjes Pt.), S. Africa. 25th Nov., 1910. (Nos. 17, 19.)

c. ♀ imm. Breakwater, Table Bay. 30th Nov., 1910. (No. 38.)

d–f. ♂. Ichabo Island. 3rd Dec., 1910. (Nos. 10, 54, 62.)

Iris green; eyelids blue; bill blue at base, bare skin bright yellow; feet black.

[The Trek Duyker, a name derived from the Dutch and meaning "diver," appears to be the most plentiful of all the Cormorants, and is found well out from the coast and islands. It is generally seen flying in V-shaped flocks or long lines.—W. P. L.]

Butorides sturmi (Wagl.).

Ardetta sturmi Reich. i. p. 368.

a. ♀. Nanna Kru. 22nd Jan., 1911. (No. 389.)

Iris yellow; upper mandible including nostril brownish, under mandible greenish yellow; tarsus dirty green, soles of feet yellow; joints of legs and feet light green.

Total length in the flesh 14½ inches; expanse 24 inches.

The body of this bird was infested with bright red ticks, causing swellings.

[The specimen obtained was the only one noticed; the bird is exceedingly hard to see in the mangroves. The other small Heron, *B. atricapilla*, was, on the other hand, extremely plentiful.—W. P. L.]

Œdicnemus vermiculatus Cab.

Œdicnemus vermiculatus Reich. i. p. 200.

a. ♀. Nanna Kru. 31st Dec., 1910. (No. 210.)

Iris yellow; bill black, green at the base and at the tip; feet greenish.

Total length in the flesh 16 inches; expanse of wings 27 inches.

[This bird was common up some of the Liberian lagoons, and was occasionally seen on the coast.—W. P. L.]

Galactochrysea liberiæ (Schl.).

Glareola liberiæ Reich. i. p. 148.

a, *b*. ♂ ♀. Nanna Kru. 1st Jan., 1911. (Nos. 233, 258.)

Iris brown; bill black, base red; feet red.

Total length in the flesh 7¼ inches; expanse of wings 16½ inches.

[This bird is rare along the coast but very plentiful on the lagoons, where I have seen as many as fifty or sixty together. —W. P. L.]

Squatarola helvetica (Linn.).

Squatarola squatarola Reich. i. p. 163.

a. ♂. Nanna Kru. 24th Jan., 1911. (No. 390.)

Iris brown; bill black; feet blue.

Total length in the flesh 12⅛ inches; expanse of wings 24 inches.

It was to be expected that the Grey Plover whould be found wintering in Liberia, although this is, I believe, the first actual record of the species occurring there, where Mr. Lowe remarks that it is "rare."

Strepsilas interpres (Linn.).

Arenaria interpres Reich. i. p. 142.

a. ♀. Nifu. 30th Dec., 1910. (No. 197.)

Iris brown; bill black; feet yellow.

Total length in the flesh 9¾ inches; expanse of wings 10 inches.

The Turnstone must be added to the list of Liberian birds. The specimen which Mr. Lowe procured is still in its winter plumage; it is an adult bird.

Recurvirostra avocetta Linn.

Recurvirostra avocetta Reich. i. p. 206.

a, *b*. ♂ ♀. Walfish Bay and lagoon. 8th Dec., 1910, & 31st March, 1911. (Nos. 76, 659.)

Iris red; bill black; feet blue.

Total length in the flesh 15½ inches; expanse of wings 30 inches.

[Large numbers of these birds, from thirty to fifty in a flock, were seen in Walfish Bay; they were very wild and consequently extremely hard to procure.—W. P. L.]

Sterna balænarum (Strickl.).

Sterna balænarum Reich. i. p. 68.

a, *b*. ♂ ♀. Walfish Bay. 8th Dec., 1910. (Nos. 54, 65.)

Iris brown; bill black, base of lower mandible yellowish; feet dirty yellow.

Total length in the flesh 8¼ inches; expanse of wings 20 inches.

[This Little Tern was quite common in Walfish Bay; it was also found on the lagoon a little way inland, which is joined to the sea by a river.—W. P. L.]

Sterna maxima Bodd.

Sterna maxima Reich. i. p. 59.

a. ♂. St. Paul de Loanda. 14th Dec., 1910. (No. 88.)

b, *c*. ♀. Man-of-War Bay. 2nd Feb., 1911. (Nos. 421 & 423.)

d. ♂. Subono. 10th Feb., 1911. (No. 463.)

Iris brown; bill yellow; feet black, soles of feet yellow.

Total length in the flesh 19 inches; expanse of wings 42 inches.

Sterna maxima is not recorded from Liberia in Mr. Chubb's List.

Larus dominicanus Licht.

Larus dominicanus Reich. i. p. 41.

a–*l*. ♂ ♀ ad. et imm. Table Bay. 23rd & 24th Nov., 1910. (Nos. 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13.)

m, *n*. ♂ ad. et imm. Walfish Bay. 8th Dec., 1910. (Nos. 76, 77.)

Iris greyish brown; eyelids orange-red; bill yellow with red patch on lower mandible; legs and feet bluish yellow. In immature birds the bill is black and the feet dirty whitish.

[These Gulls were never seen in open water, but they are plentiful enough at the guano islands and along the mainland; they do not, however, follow ships out to sea, as is the habit of our European species. This remark also applies to the following species, *L. hartlaubi*.—W. P. L.]

Larus hartlaubi (Bruch).

Larus hartlaubi Reich. i. p. 45.

a, *b*. ♂ ♀. Off Hogie Point (? Houtjes Pt.), S. Africa. 25th Nov., 1910. (Nos. 15, 16.)

c–*k*. ♂ ♀. Table Bay. 23rd–29th Nov., 1910. (Nos. 5, 20, 23, 27, 28, 35, 36, 37.)

Iris brown, eyelids reddish; bill reddish black; feet brownish.

Total length in the flesh 14½ inches ; expanse of wings 35 inches.

(The same remark applies to this bird as to the preceding species.)

Stercorarius crepidatus (Gm.).

Stercorarius crepidatus Reich. i. p. 39.

a–c. ♂ ad. et imm.; ♀ ad. Walfish Bay. 1st April, 1911. (Nos. 651, 653, 658.)

Iris brown; bill greyish horn-coloured, tip black ; feet black.

Total length in the flesh 21½ inches ; expanse of wings 44 inches.

[Several of these birds were seen frequently about three or four miles from the coast of Liberia.—W. P. L.]

Procellaria pelagica (Linn.).

Hydrobates pelagicus Reich. i. p. 34.

a. ♀. 30 miles north of the Equator. 19th Dec., 1910. (No. 121.)

Iris brown; bill black ; feet black.

Total length in the flesh 6 inches ; expanse 13 inches.

This specimen, which was caught alive on board H.M.S. 'Mutine,' is a very small example, the wings measuring only 4½ inches.

[This and the two following birds used to settle on the poop of the ship at night when attracted by the light on my table as I was skinning birds ; they were easily caught. —W. P. L.]

Oceanodroma leucorrhoa (Vieill.).

Oceanodroma leucorrhoa Reich. i. p. 33.

a. ♀. 6° 33′ N., 12° 4′ W. 5th March, 1911. (No. 568.)

Iris dark brown ; bill and feet black.

Total length in the flesh 8¼ inches; expanse of wings 18½ inches.

[The stomach contained a fish.—W. P. L.]

Oceanites oceanicus (Banks).

Oceanites oceanicus Reich. i. p. 35.

a. ♂. Nanna Kru. 20th Jan., 1911. (No. 345.)

Iris brown; bill and feet black, webs yellow.

Total length in the flesh $7\frac{1}{2}$ inches; expanse of wings 16 inches.

Majaqueus æquinoctialis (Linn.).

Procellaria æquinoctialis Reich. i. p. 24.

a–c. ♂ ♀. Table Bay. 28th Nov., 1910. (Nos. 25, 29, 32.)

Iris brown; bill bluish yellow and black; feet black, webs dirty white.

[The Cape Hen accompanies ships almost to the Equator, feeding on the refuse thrown overboard. The stomach of a female which I shot contained fish-spawn.—W. P. L.]

Spheniscus demersus (Linn.).

Spheniscus demersus Reich. i. p. 14.

a. ♂ juv. in down. Ichabo Island. 3rd Dec., 1910. (No. 42.)

Iris greyish black; bill black; feet greyish black.

[This Jackass Penguin goes a long way from land and was noticeable everywhere, swimming and diving or else basking in the sun on its side in a most leisurely manner with one foot raised well over its back. Penguins were principally seen in small lots of from two to eight birds. When a long distance from land they appear to travel chiefly under water and at a surprising rate. They are extremely valuable to the Cape Government, and between Table Bay and Ichabo there are many Government guano-preserves where thousands of eggs are collected annually. A pure albino was killed at Ichabo a few months prior to my arrival there. Additional notes on this species will be found in my account of Ichabo Island.—W. P. L.]

Turnix lepurana (Smith).

Turnix lepurana Reich. i. p. 301.

a. ♂. Bemfica, Mora Cruz. 15th Dec., 1910. (No. 94.)

b. ♂. Nanna Kru. 4th Jan., 1911. (No. 215.)

Iris yellow; bill bluish horn-coloured; feet flesh-coloured.

Total length in the flesh $5\frac{1}{4}$ inches; expanse of wings 9 inches.

Mr. Chubb does not record any members of this genus from Liberia, so the species must be added to his List of Liberian Birds.

[Several Quails belonging to this species were shot on the Kru coast; they were generally to be found on sandy soil among the cassava.

Another species, which I believe to be new, occurs in the long grass, and one was shot at Nanna Kru but unfortunately not recovered. The upper surface was *olive*.—W. P. L.]

If the olive-coloured bird which Mr. Lowe shot really belonged to this genus there is no doubt that the species is new; no Quail found in Africa ever assumes a plumage which could be mistaken for olive-green by such an excellent and careful collector as Mr. Lowe has proved himself to be.

Turturœna iriditorques (Cass.).

Turturœna iriditorques Reich. i. p. 419.

a, b. ♂. Nanna Kru. 5th & 10th Jan., 1911. (Nos. 365, 243.)

c. ♀. Settra Kru. 14th Jan., 1911. (No. 365.)

Iris (♂) pink, (♀) red, bare skin round eye red; bill blue; feet coral-red.

Total length in the flesh 11 inches; expanse of wings 19 inches.

These are welcome additions to the Natural History Museum, the only skins of the species in the collection being in very poor condition. According to Dr. Reichenow this rare Pigeon ranges as far south as Angola.

[The first example of this bird was obtained during a pigeon shoot, flying in company with *Turtur semitorquatus*; the second was shot whilst perched in a clump of high trees, and the third in dense forest. The birds appear to be tame but are very scarce, only one specimen having been seen besides the three obtained.—W. P. L.]

Chalcopelia afra (Linn.).

Chalcopelia afra Reich. i. p. 426.

a, b. ♂ ♀. Nifu. 30th Dec., 1910. (Nos. 199, 204.)

Iris brown; bill red, darker towards the base; feet red.

Total length in the flesh 8¼ inches; expanse of wings 12 inches.

[I found this species extremely plentiful along the Kru coast.—W. P. L.]

Turtur semitorquatus (Rüpp.).

Turtur semitorquatus Reich. i. p. 409.

a. ♂. Sekondi. 23rd Dec., 1910. (No. 182.)

b. ♂. Nanna Kru. 5th Jan., 1911. (No. 238.)

c. ♀. Settra Kru. 16th Jan., 1911. (No. 380.)

Iris red; bare skin round eye red; bill black, base reddish; feet red.

Total length in the flesh 13 inches; expanse of wings 20 inches.

The stomach contained hard black seeds.

This common species was omitted from Mr. Chubb's List of Liberian Birds.

Tympanistria tympanistria (Temm.).

Tympanistria tympanistria Reich. i. p. 424.

a. ♂. Sekondi. 27th Dec., 1910. (No. 177.)

b. ♂. Nanna Kru. 17th Jan., 1911. (No. 368.)

c. ♀. Sierra Leone. 3rd Feb., 1911. (No. 441.)

Iris brown; bill blackish red; feet red.

Total length in the flesh 8¼ inches; expanse of wings 13 inches.

[This Dove is much less plentiful than *Chalcopelia afra*. It prefers very thick cover.—W. P. L.]

Vinago calva (Temm.).

Vinago calva Reich. i. p. 394.

a. ? Sekondi. 24th Dec., 1910. (No. 183.)

b. ♀. Settra Kru. 14th Jan., 1911. (No. 362.)

c. ♀. Axim. 16th Feb., 1911. (No. 479.)

Iris blue, outer ring red; bill bluish green, red at the tip; feet yellow.

Total length in the flesh 10½ inches; expanse of wings 19 inches.

This green Fruit Pigeon was abundant at Settra Kru and common at Axim, where it nests on Saiabi Island.—W. P. L.]

Francolinus bicalcaratus (Linn.).

Francolinus bicalcaratus Reich. i. p. 482.

a. ♀. Nanna Kru. 3rd Jan., 1911. (No. 277.)

b. ♂. Settra Kru. 15th Jan., 1911. (No. 379.)

c. ♂. Man-of-War Bay, Sierra Leone. 2nd Feb., 1911. (No. 440.)

Iris brown; bill greenish yellow, ridge of culmen black; feet dirty yellow.

Total length in the flesh 13½ inches; expanse 22 inches.

[Francolins were common along the Kru coast and also in the cassava fields at Sierra Leone, where I have put up as many as eight in a covey.—W. P. L.]

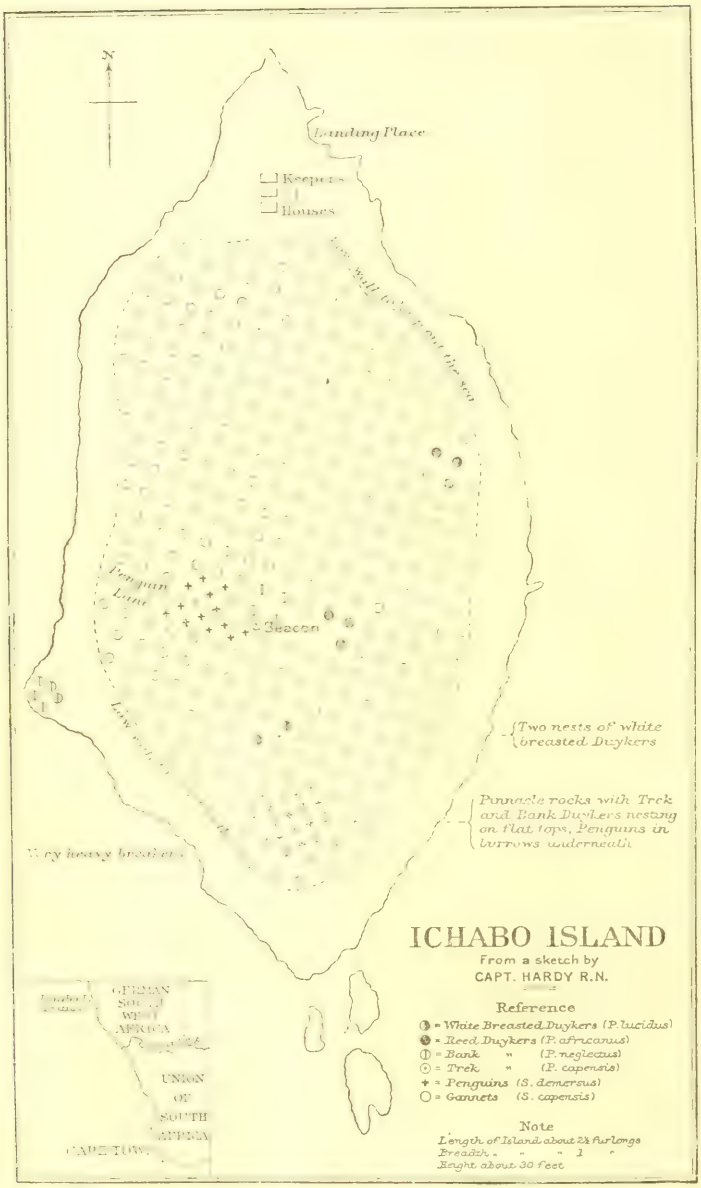
APPENDIX.

Description of Ichabo Island. By W. P. Lowe.

This island, almost unknown sixty odd years ago, lies off the coast of German South-West Africa, and is two thirds of a mile from the mainland. It is about 30 ft. high at the beacon, and consists of granite, quartz, shale and stone. In circumference it is rather less than a mile, while it is the most valuable of the various guano islands owned and worked by the Government of United South Africa. Through the kindness of Captain Hardy, R.N., of H.M.S. 'Mutine,' I was able to land on the 3rd of December, 1910, at this interesting spot, and with the permission of the Government officials to collect such specimens of birds and eggs as I desired for the British Museum of Natural History.

About 10.30 A.M. we sighted a white spot, and as we drew nearer perceived that it was unmistakably the island covered with Gannets. Apart from the island being literally a mass of birds, the air and water seemed alive with them in every direction: in fact, the only open space was around the

Text-fig. 3.



Plan of Ichabo Island.

guano men's houses at the north end of the island, and this is kept clear by a dog. The accompanying plan (text-fig. 3), which Captain Hardy kindly prepared, gives an excellent idea of this bird resort.

No sooner had we anchored than the headman and some others came off in a surf-boat to inquire what we wanted. I handed over my permit, and it seemed to cause some surprise, as these valuable guano deposits are never allowed, under any circumstances, to be disturbed. I explained that I wanted a good number of each species. After luncheon, Captain Hardy and I were rowed ashore in the boat belonging to the island. As we neared the landing the whole population, consisting of a few men, five dark women and some children, came to meet us. We awaited the incoming breaker, which shot us right upon the shelly shore, then, jumping quickly out in order to avoid being soaked by a second breaker, and taking the basket and boxes for eggs, we left the men and women to haul the boat up well out of the reach of the water, in which task it was amusing to watch the tiny children trying to assist. The headman now joined us, and after a hasty inspection of the dwellings and a look at the livestock, consisting of pigs, poultry, cats, and a very fine dog, we proceeded to examine the most marvellous preserve of nesting birds I had ever seen. To the north-east the island is rocky, and here were to be seen plenty of scattered Cormorants; but we were now to enter the huge gathering of Gannets, or Malagas as they are called. I first secured eggs and then bagged a fine male, which I put into the basket. The birds, which were quite tame and very handsome, sat, or stood, as closely packed as possible. They appear to make no nest, and the single egg, white in colour, though generally very dirty, is laid in a slight depression of the guano and feathers, with which the island is covered, and, even with the utmost care, it was not possible to avoid treading on occasional eggs. As we waded along through this living mass the birds tried to make room for us by fluttering on the top of one another, raising a most disagreeable dust which settled all over us. What

with the cries of the birds at our feet, and a crowd of them flying over our heads it was most bewildering.

Passing south-west we came to the curious lane which the Gannets leave for the flightless Penguins to pass to and from the sea from their nests. We walked up this narrow path, and found a colony of Penguins nesting in small burrows under the rocks. I took some eggs, which are excellent eating and have a commercial value of twopence each at the Cape, and also a nice young specimen in the down. Retracing our steps, we visited the Bank Cormorants (*Phalacrocorax neglectus*). These are large, dark birds, and can be distinguished at a glance from all the others by having no bright skin coloration about the head. There was no difficulty in obtaining them or their chalky-blue eggs. The nests were composed of seaweed and built on pinnacle rocks. The headman now sent for some empty sacks as our basket was overflowing. He told me that there was another kind of Bank Cormorant, with white spots on the rump, so we went to see these at the south end of the island, but they proved to be the same species in adult plumage. I took a pair of these and a nice fluffy nestling. Amongst this colony of Bank Cormorants were a quantity of Trek Cormorants, which are so called on account of their roving habits, whereas I seldom saw the others far from their breeding-ground or the shore. They are quite the commonest of all, and can be easily distinguished from the others by the bright yellow throat: the eyes are green, and the brilliant metallic-blue eyelids are most beautiful. After taking some eggs and several specimens, we walked back to Penguin lane, where we hopped over the Penguins' heads to try and avoid their beaks, as they bite severely, even through putties. We then crossed the ridge of the island to where the Reed Cormorants (*P. africanus*) are to be found. These are the most handsome of all with their dark bodies, red faces and eyes, black crests, and long tails. The nests were placed on rocks, and built, as usual, of seaweed, for which they dive, and it is amusing to see them flying home with quantities in their beaks. The structures are generally said to be built of sticks, but as there is

no vegetation in this desert country they are compelled to use what nature provides. I found these birds more shy than any of the previous kinds, and it became obvious, after several futile attempts to catch them on their nests, that other methods must be employed. Our people were carrying sticks about the size of broom-handles, and as the females returned to their eggs immediately we moved away, some of the men crept within reach, and with a smart tap on the neck, secured several specimens. This proved rather dangerous work, as we were surrounded by Gannets, and, though they are peaceful birds, they resent men creeping on all fours amongst them and their eggs. With such formidable beaks, a blow in the face might prove serious; in fact, this did happen to our genial headman whilst he was making for a further pair, but, fortunately, he was struck below the eye, though this caused a nasty wound which bled profusely. As a fair number of specimens had now been secured, I resolved not to try for any more, but to turn my attention to the large White-breasted Cormorants (*P. lucidus*), the rarest variety found here, of which there were only two nests on the island. Returning once more for a short distance, we were able to see the birds from where we stood, but the men greatly doubted the possibility of being able to stalk them, as they are the most shy of all. As I had promised not to use firearms on or near the island, there was nothing for it but to try and take them in the same manner as the Reed Cormorants; for skins of this species were particularly required. After a good many attempts, between which the birds kept returning to their nests in a most persistent manner, we had to give it up, and, whilst the headman said the only way to get specimens would be by shooting, I was loth to do this. It struck me that trapping might answer the purpose, so I arranged to procure some traps, which were placed on the nests, and by this means both pairs were caught. Their nests were larger than the others, and placed in a very prominent position. The eggs, like many taken, were too well incubated to be blown.

Passing east through the Gannets, we walked along the side

of the wall in the direction of the settlement, examining a few more Reed Cormorants' nests; the females were quite tame, and I stroked one without its leaving its eggs. We next passed the iron pier on our right, where the guano boats are loaded, and this is a very favourite perch for the White-breasted Cormorants, which like to sit here and sun themselves. Having reached the houses, we had some refreshment and a chat with the man in charge, who told me that they ship nearly 2000 tons of guano per annum from this island, and that thirty men are employed during the months of April and May, when all the Gannets depart. There were two large stacks of guano at the time of my visit; each stack contains about 800 tons, and its value is £6 10*s.* per ton. All provisions, including water, are brought by steamer from Capetown every three months. After the birds have been away for two months they suddenly re-appear, in one immense flight, which is said to last only an hour. This sight must be marvellous indeed. I noticed a small seal at the settlement which had been washed up on the island and stuffed; also a Wandering Albatross (*Diomedea exulans*), which had been caught on a ship some distance to the southward. There were, in addition to the birds mentioned, the Southern Black-backed Gull and Hartlaub's Gull. The former does a great deal of damage by eating the eggs and young birds; but the parents seem to shew very little resentment at this behaviour. A few small waders and grey-coloured ducks were also seen, but not close enough to determine the species. Flamingos occur occasionally, but are commoner on the German mainland, where there is said to be a fine of £15 for shooting them. The White-breasted Cormorants are quite rare at Ichabo, but I hear that on a small island, a mile and a half south, in Hottentot Bay, they are common, and that there are as many as five hundred nests there. Having bid adieu to the guano-men, and got our specimens into the boat, we left at 4.30 P.M. for the ship. As the sun sank behind the island, the sight of the few lonely tombstones appearing against the horizon, amidst the never ceasing stream of bird-life, was a sight weird in the extreme, and one which left a lasting impression.